

# इंटरनेट

# मानक

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“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

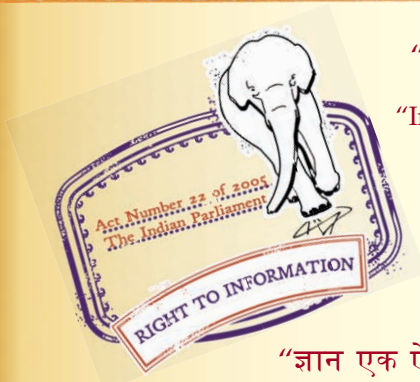
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 5324 (1996): Hand-Operated Stillage Truck - Lifting Truck (Hand Elevating) [MED 7: Material Handling Systems and Equipment]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



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भारतीय मानक

हस्तचलित स्टिलेज ट्रक — उत्थापक ट्रक  
(हाथ से उठने वाला) — विशिष्टि  
( दूसरा पुनरीक्षण )

*Indian Standard*

HAND-OPERATED STILLAGE TRUCK —  
LIFTING TRUCK (HAND ELEVATING) —  
SPECIFICATION  
( *Second Revision* )

ICS 53.060; 53.020.30

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BUREAU OF INDIAN STANDARDS  
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## FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Non-powered Material Handling Equipment Sectional Committee had been approved by the Heavy Mechanical Engineering Division Council.

This standard was first published in 1969 and then revised in 1983. This revision of the standard has been brought out to bring it in line with the latest practices being followed in the country in the manufacture of hand-operated stillage trucks (hand elevating). The revised standard incorporates following changes:

- a) The shape and design of the stillage truck is revised;
- b) Three more sizes of stillage trucks added;
- c) Constructional, workmanship, performance and marking requirements of the stillage trucks included; and
- d) The height of lift standardized to 50 mm.

In the formulation of this standard assistance has been derived from ISO 938-1975 'Hand-operated stillage trucks — Principal dimensions', issued by the International Organization for Standardization (ISO).

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2:1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

# *Indian Standard*

## HAND-OPERATED STILLAGE TRUCK — LIFTING TRUCK (HAND ELEVATING) — SPECIFICATION ( *Second Revision* )

### 1 SCOPE

This standard covers principal dimensions and requirements of hand-operated stillage trucks, which are directly in relation to the corresponding dimensions of stillages.

### 2 REFERENCES

The Indian Standards listed below are necessary adjuncts to this standard:

<i>IS No.</i>	<i>Title</i>
5 : 1978	Colours for ready mixed paints and enamels ( <i>third revision</i> )
1239 (Part 1) : 1990	Mild steel tubes, tubulars and other wrought steel fittings: Part 1 Mild steel tubes ( <i>fifth revision</i> )
2062 : 1992	Steel for general structural purposes ( <i>fourth revision</i> )
2074 : 1992	Ready mixed paint, air drying, red oxide zinc chrome, priming ( <i>second revision</i> )
2932 : 1994	Enamel, synthetic, exterior: (a) undercoating (b) finishing ( <i>second revision</i> )
5387 : 1969	Dimensions for stillages
6839 (Part 2) : 1974	Glossary of terms relating to non-powered materials handling equipment : Part 2 Hand trucks and trolleys

### 3 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 6839 (Part 2) : 1974 shall apply.

### 4 DESIGN

4.1 A typical design of the stillage truck is shown in Fig. 1 for guidance only.

4.2 The stillage truck shall be suitable of handling goods stacked/kept on standard stillages conforming to IS 5387 : 1969.

### 5 CONSTRUCTION

#### 5.1 Frame

The frame shall be made out of structural steel sections conforming to IS 2062 : 1992.

#### 5.2 Axle

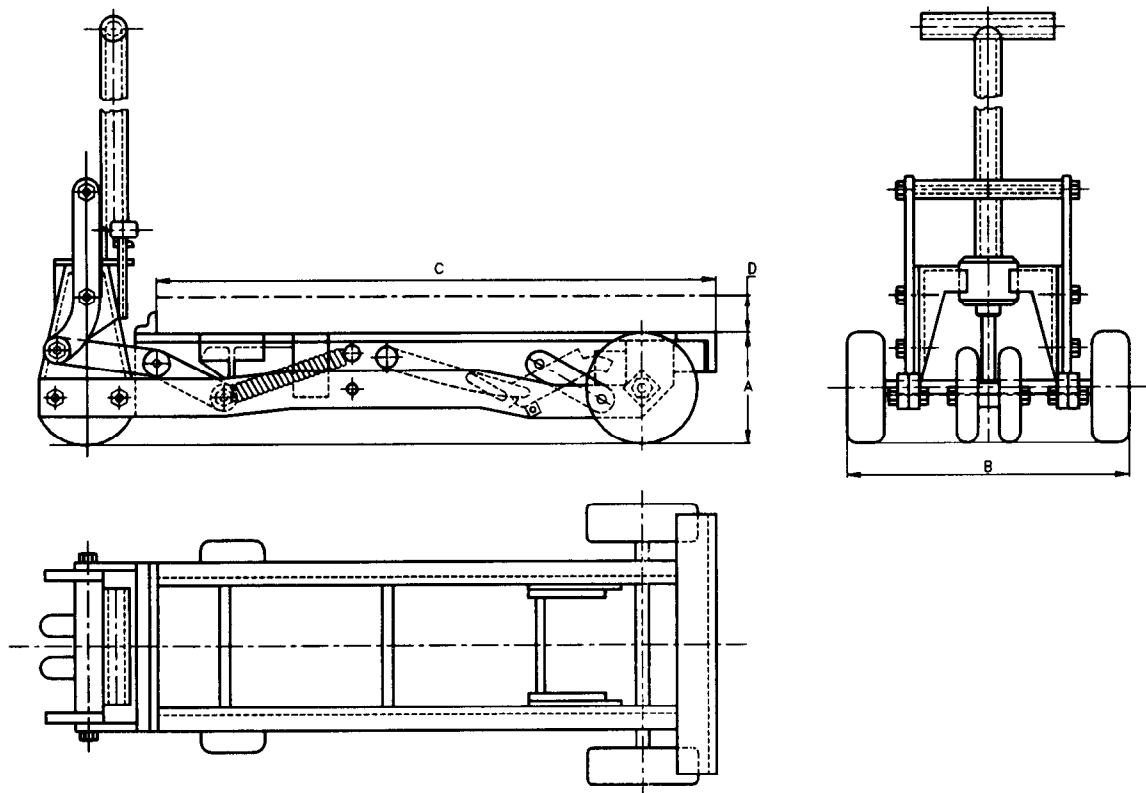
The axle shall be made out of round bar conforming to IS 2062 : 1992.

#### 5.3 Handle

5.3.1 The handle shall be made of mild steel tubular sections conforming to IS 1239 (Part 1) : 1990.

5.3.2 The handle shall have provisions to latch it in vertical position for push and pull manoeuvring in confined spaces.

5.4 If required by the purchaser the stillage truck shall be provided with hydraulic check release for smooth and safe lowering of the load.



All dimensions in millimetres.

FIG. 1 DIMENSIONS FOR HAND-OPERATED STILLAGE TRUCK

**6 DIMENSIONS AND CAPACITIES**

6.1 The overall dimensions, lift and the capacity of the trolley shall be as given in Table 1.

**Table 1 Nominal Dimensions of Stillage Truck**

(Clause 6.1, and Fig. 1)

All dimensions in millimetres.

Height of elevating frame when lowered (A)	160	180	180	180	180	230	280
Overall width of frame (B)	470	425	450	560	600	620	700
Nominal length of elevating frame (C)	800						1 500
	900	900	900		900		1 600
			1 200	1 000	1 200	1 200	1 800
Height of lift (D)	50	50	50	50	50	50	50
Capacity, kN	6	6	10	10	10	10	10

## 6.2 Tolerances

**6.2.1** Tolerances on overall dimensions and lift shall be  $\pm 5$  mm.

## 7 WHEELS

The wheels used with the truck shall be of minimum 150 mm dia, cast iron or rubber tyred, with suitable bearing arrangement or shall be left to the discretion of manufacturer and purchaser.

## 8 WORKMANSHIP AND FINISH

**8.1** The truck shall be free from warp in structural frame work and other visible defects.

**8.2** Each stillage truck shall be free of rust, millscale, dirt, oil, etc, and thoroughly cleaned, if needed with chemical solution and rinsed. Subsequently each truck shall be given one coat of red oxide primer (see IS 2074 : 1992) and then two coats of synthetic enamel paint (see IS 2932 : 1994) in colour/shade as agreed (see IS 5 : 1978).

**8.3** The painted surface shall be free from wrinkles, dripping, scratches and irregularities both in colouring and painting.

## 9 PERFORMANCE TEST REQUIREMENTS

### 9.1 General

When the truck is traversed over a smooth road with the permissible carrying load, the wheels shall turn smoothly and other parts shall function satisfactorily in both raised and lowered position.

### 9.2 Load Test

Place the stillage truck under the stillage on tote box

which contains the rated load. Raise the load by operating mechanical leverage of the truck to its maximum height and leave it at the top most position for five minutes. The load shall not come down on its own.

**9.2.1** Repeat the above test with 10 percent overload.

**9.2.2** After completion of the test there shall be no permanent set or distortion in the structure or any member of the structure of the truck.

### 9.3 Handle

The handle shall withstand a minimum horizontal force of 230 N plus 2 percent of the rated load, without breaking or permanently bending.

## 10 MARKING

**10.1** The stillage truck shall be marked with the following information in visible position:

- a) Indication of the source of manufacture;
- b) Capacity, in kN;
- c) Manufacturer's serial number; and
- d) Year of manufacture.

### 10.2 BIS Certification Marking

The stillage truck may also be marked with the Standard Mark.

**10.2.1** The use of the Standard Mark is governed by the provisions of *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.